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SYMPOSIUM ON RESEARCH RELATED TO WATER POLLUTION IN THE NORTHWEST (2ND) HELD IN PORTLAND, OREGON ON JANUARY 20, 1958

Public Health Service
Portland, Oregon

20 January 1950

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SECOND SYMPOSIUM ON RESEARCH RELATED TO

WATER POLLUTION IN THE NORTHWEST

Theme: Financing water pollution research projects.

Date: January 20, 1950. Time: 10:00 A.M.

Place: Room 104 U. S. Court House, Main and Broadway, Portland, Oregon.

AGENDA

I. Introductions.

II. Discussion of purpose of meeting.

III. Research grants, qualifications and methods of application.

1. U. S. Public Health Service and National Institute of Health grants - Harry Faber, Research Coordinator, Public Health Service, Washington, D.C.

2. U. S. Fish and Wildlife Service, Dingell-Johnson and Saltonstall-Kennedy programs - Dr. L. E. Perry, U. S. Fish and Wildlife Service, Portland, Oregon.

3. Atomic Energy Commission grants program - Representative of Hanford Works Commission, Richland, Washington.

4. National Council for Stream Improvement and grant programs of other industrial establishments - Dr. Isaiah Gellman, West Coast Regional Engineer, National Council for Stream Improvement, Portland, Oregon.

IV. Other possible methods of financing projects. Discussion leader -

V. Area or group support of grant applications. Discussion leader - E. F. Eldridge.

VI. Suggestions as to nature of future meetings.

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AGENDA

10:00 to 10:15	I.	Introductions.
10:15 to 10:20	II.	Discussion of purpose of meeting, E. F. Eldridge.
	III.	Research grants, qualifications and methods of application.
10:20 to 12:00	1.	U. S. Public Health Service and National Institutes of Health grants - Harry Faber, Research Coordinator, Public Health Service, Washington, D.C.
1:30 to 2:30	2.	U. S. Fish and Wildlife Service, Dingell-Johnson and Saltonstall-Kennedy programs - Dr. L. E. Perry and Leonard Springer, U. S. Fish and Wildlife Service, Portland, Oregon.
2:30 to 3:00	3.	Atomic Energy Commission grants program - Kenneth Englund, Hanford Works Commission, Richland, Washington.
3:00 to 3:45	4.	National Council for Stream Improvement and grant programs of other industrial establishments - Dr. Isaiah Gellman, West Coast Regional Engineer, National Council for Stream Improvement, Portland, Oregon.
3:45 to 4:30	5.	Other possible methods of financing projects. Discussion leader - Robert O. Sylvester.

REPORT IN BRIEF OF SECOND SYMPOSIUM ON RESEARCH

RELATED TO WATER POLLUTION IN THE NORTHWEST

The second symposium on research was held in Portland, Oregon on January 20, 1958. The theme of this symposium was "financing of water pollution research projects." The purpose was to acquaint those engaged in this field of research with the various sources of research funds and the requirements, methods of application and other pertinent information in each case.

The meetings were attended by 32 persons representing organizations interested in or conducting projects in this field of research. The following is a list of these persons:

Herman R. Amberg, Project Leader, Crown Zellerbach, Camas
Clifford A. Barnes, Prof. of Oceanography, Univ. of Wn., Seattle
Wilson F. Bow, San. Engr. Section, Wn. State Dept. of Health, Seattle
Fred J. Burgess, Ass't Prof. of Civil Engr., Oregon State College, Corvallis
Wayne V. Burt, Assoc. Prof. of Oceanography, Oregon State College, Corvallis
Donald W. Chapman, Coordinating Biologist, Oregon State College, Corvallis
Herbert C. Clare, Ass't Reg. Engr., U. S. Public Health Service, Portland
David B. Charlton, Director, Charlton Laboratories, Portland
Peter Doudoroff, Dept. of Fish & Game Mgt., Oregon State College, Corvallis
Gilbert H. Dunstan, Prof. of Sanitary Engr., St. Coll. of Wn., Pullman
Kenneth L. Englund, Chief, Tech. Services, Hanford-AEC, Richland
E. F. Eldridge, Phys. Sci. Adm., U. S. Public Health Service, Portland
Curtiss M. Everts, Jr., State San. Engr., Ore. Dept. of Health, Portland
Harry Faber, Research Coordinator, U.S. Public Health Service, Wn., D.C.
John L. Fryer, Jr., Fisheries Bio., Oregon State College, Corvallis
Isaiah Gellman, National Council for Stream Improvement, Portland
E. P. Haydu, Research Associate, Weyerhaeuser Timber Co., Longview
Frank Hawks, Ass't Res. Mgr., Rayonier, Inc., Shelton
Cedric E. Lindsay, Wn. Dept. of Fisheries Shellfish Lab., Quilcene
L. Dean Marriage, Water Resource Analyst, Oregon Fish Comm., Portland
Erling J. Ordal, Prof. of Microbiology, Univ. of Wn., Seattle
L. Edward Perry, U. S. Fish & Wildlife Service, Portland
Harry K. Phinney, Assoc. Prof. of Botony, Oregon State College, Corvallis
M. Popovich, Ass't Dean of Engr., Oregon State College, Corvallis
D. R. Peterson, Wn. Pollution Control Comm, Olympia
Maurice Rattray, Jr., Assoc. Prof. of Oceanography, Univ. of Wn., Seattle
Arthur F. Scott, Prof. of Chemistry, Reed College, Portland
L. M. Springer, U. S. Fish & Wildlife Service, Portland
R. O. Sylvester, Prof. of Sanitary Engr., Univ. of Wn., Seattle
J. H. Svore, San. Engr. Director, U. S. Public Health Service, Portland
J. W. Wilson, Biologist, U. S. Public Health Service, Portland
Warren C. Westgarth, Ass't Prof. of Civil Engr., Oregon St. Coll., Corvallis

Mr. Harry Faber, Research Coordinator, U. S. Public Health, Washington, D. C. discussed Public Health Service and National Institutes of Health research grants. Mr. Faber's discussion will not be repeated here since the material covered was made available to the group in the form of two reports distributed at the meeting. The titles of these reports are:

"A Ten-Year Statistical Summary of Research Grants in Sanitary Engineering and Occupational Health" - Progress Report No. 1, January 1957.

"PHS Research Grants Awarded in Water Supply and Water Pollution Control Studies" - July 1 to December 31, 1957.

These two reports are available in the Portland office of the PHS or may be obtained by writing to Mr. Faber.

The reader is also referred to an article by Mr. Faber in Sewage and Industrial Wastes Volume 29, April 1957, page 432, "Research Grants in Sanitary Engineering."

Forms on which to apply for these grants can also be obtained from the Portland office or from Mr. Faber.

Dr. L. Edward Perry, Portland office of the U. S. Fish and Wildlife Service discussed the Saltonstall-Kennedy grant program. Funds are available from this source for water pollution research which applies to the effect on the commercial fishery. Few applications have been made for this purpose. There is a considerable reserve of funds available.

Investigations involving oceanography (current and distribution), salt water biology, effects of pollution on the marine or estuary environment, watershed problems involving spawning of commercial fish, toxicity of wastes to fish and shellfish, etc. are among the types of studies which should be eligible for grants under this Act. Dr. Perry discussed the type of application required. Apparently it is fairly simple. He also discussed the type of report required.

Requests for application forms should be made to the U. S. Fish and Wildlife Service, Washington, D. C.

Mr. Leonard M. Springer, U. S. Fish and Wildlife Service, Portland, discussed the Dingell-Johnson grant program. Funds under this Act are granted to state game departments and are not available to other organizations except through those departments. The Service deals only with the state departments who are therefore responsible for planning projects, allotting funds and making reports.

It is possible for these departments to allot funds for research in

water pollution provided game fish are involved. In as much as the operations of game departments are affected by pollution, funds from this source are a distinct possibility.

The Atomic Energy Commission grant program was discussed by Mr. Kenneth L. Englund, Chief Technical Services, Hanford Works. The AEC grant program is very similar to the PHS program. Application forms are similar, as are methods of review, allotment and reporting.

Projects involving radioactive waste disposal and its effects on the water environment are eligible for grants. Forms are available from the Atomic Energy Commission, Washington, D. C.

Dr. Isaiah Gellman, West Coast Regional Engineer, National Council for Stream Improvement, discussed in general the extent of monies spent by industrial organizations for water pollution and waste disposal research. Dr. Gellman has agreed to make his statements available for distribution to those who attended this meeting. This paper will be distributed by the Portland office of the Public Health Service when received.

A statement which was emphasized by Dr. Gellman and which is pertinent to the theme of the symposium was - "That the Council for Stream Improvement in its grant program sought the researcher organization to which it wished to make a grant." The above policy is not a general procedure used by all industrial groups. However, it is more generally used by industry than it is by Governmental agencies.

Professor Robert O. Sylvester, Civil Engineering Department, University of Washington, led a discussion of other possible sources for funds to finance water pollution research projects. Among the sources discussed were state pollution control agencies and private industry. Both the Washington Pollution Control Commission and the Oregon State Sanitary Authority have in the past made grants to the colleges and universities of the two states for specific research. It was the consensus of the group that these agencies should be encouraged to continue and perhaps expand this practice.

Private industries often look to educational institutions for help on problems. Such industries are significant sources of funds for research. There is no reason for a researcher to hesitate to approach an industry with an objective project (unless, of course, it is contrary to the policy of the institution).

The Ford Foundation does not support this type of project which relates to water pollution. However, Resources for the Future, Inc. is an

autonomous fund established and financed by the Ford Foundation. The purpose of the Resources for the Future is to foster, encourage and conduct scientific research with special emphasis on social sciences in the field of natural resources and conservation; the wise use and development of such resources; to publish and disseminate results of research and otherwise foster, encourage and improve knowledge and education in such fields. Grants are made for research. Items of current interest are "critical economic problems concerning natural resources in the United States." Water pollution research will certainly come within the purpose and interest of this organization. Very few grants for projects in this field have been made, however, perhaps due to the fact that few have been submitted and in an acceptable form. Mr. Joseph L. Fisher is Associate Director and Secretary of Resources for the Future, Inc., 1145 19th St. N.W., Washington 6, D. C.

At the conclusion of the symposium the writer distributed copies of a prospectus of a watershed research project. This prospectus is a sample of a type of service which the Public Health Service (under the consulting services of the writer) can give to those engaged in water pollution research in this area. Those attending the symposium were requested to evaluate the prospectus and inform the writer of this evaluation. If this type of prospectus is of value, others will be prepared involving major pollution problems of the Northwest as guides to research programs in the area.

January 28, 1958

EDWARD F. ELDRIDGE
Physical Sciences Administrator
Public Health Service
Water Supply and Water Pollution
Control, Pacific Northwest

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Support of Water Pollution Research Projects at Research Institutions by the National Council for Stream Improvement and Other Industrial Associations

Presented by

Isaiah Gellman*

Before entering into a discussion of the support and selection of research projects in water pollution by trade groups, I think it would be helpful to present briefly some information on trade associations as such.

A survey conducted by the U.S. Department of Commerce in 1956 showed that there were in existence in the United States 12,200 trade associations of which 1,700 were national in character. Of the total, 2,000 served manufacturing industries, 5,100 were concerned with the distribution of raw and finished goods, and 5,100 were involved in business services of one form or another. Of the 2,000 concerned with manufacturing industries, about 50 percent operate on a national scale while less than 10 percent of the 10,200 associations concerned with distribution and business services function nationally.

As a rule, the activities of such organizations are financed by anywhere from one tenth to one half of one percent of the total annual sales volume of the member companies. Most budgets fall close to the lower figure mentioned. In general, these funds are used as follows: staff salaries 40 to 65 percent, printing costs 10 to 20 percent, meetings 10 to 15 percent, rent 5 percent, and all other activities 5 to 15 percent. The types of activities which these groups normally engage in, such as preparation and circulation of newsletters presenting up-to-date information on developments of specific interest, reports on current legislation, statistical summaries on business conditions, data on product, materials and labor costs, seasonal trends in sales volumes, etc., are such that are usually performed by paid staffs, a form of dry research, which accounts for the high percentage spent for salaries. The low percentage for miscellaneous activities indicates that very little work is farmed out for consultant services, research grants, or otherwise.

While few trade associations concern themselves with water or air pollution problems, there are a number of nationally important associations serving such industries as iron and steel, petroleum refining, coal mining, food processing, such as meat packing, dairy, and canning, chemical manufacture, and pulp and paper products that have for a number of years

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supported work in these fields by collection and dissemination of technical information, coordination of research programs, and actual financial support of research projects. Several regional organizations, particularly in the pulp and paper industry, have been active along similar lines as have been several national associations of companies producing materials used in pollution control programs. After a partial review of the extent of such financial support, some generalizations of interest to this group will be presented.

The American Iron and Steel Institute has, since 1938, supported a project at the Mellon Institute concerned chiefly with pickle liquor disposal. More recently a project was established at the Sloan-Kettering Institute to study the effects of specific contaminants on human health. Expenditures on such research have risen from $47,500 in 1953 to $111,000 in 1957.

The American Petroleum Institute has spent over $156,000 on sponsored research since 1937 with annual expenditures varying from zero to $50,000. Bituminous Coal Research, Inc., furnishes nominal support to a $40,500 annual research project on acid mine water drainage at the Mellon Institute which has been underway for the past three years. The bulk of the funds are contributed by mining firms operating in the Ohio River drainage basin. In the field of food processing, the American Meat Institute at one time supported a research program at the University of Minnesota. The National Lime Association has maintained a research project at Rutgers University for many years concerned with the use of lime for neutralization of acidic wastes.

In the pulp and paper field, the Wisconsin Sulfite Pulp Manufacturers Research League has contributed $35,000 per year to university research on pollution problems for the past five years in addition to its previous activities. This compares with a total annual budget averaging $150,000 so that the largest part of its research funds are used for staff studies (75 to 80 percent). In the Northwest, until recently, the Washington Pulp Mills Committee supported a research program at the University of Washington dating back to 1944 at an average annual level of $35,000. Sponsorship of this program and its financial support have been assumed by the Northwest Pulp and Paper Association founded in 1956. The Association is actively planning to undertake a research program dealing with the effects of pulp mill effluents on the aquatic life, resources, and use of receiving waters.

Before discussing the manner in which the National Council's research program functions at universities around the country and in the Northwest, it would be desirable to generalize on the experience and operations of the above-mentioned organizations in this field. Most of these function through some organized group of member industry representatives with experience in, or responsibility for such pollution abatement programs.

These groups' variously named technical advisory, policy or operating committees define problems on which a cooperative effort appears justified, scan the field for qualified research personnel and facilities, make preliminary contacts or have staff personnel conduct such inquiries, prepare cost estimates, and recommend to the directors, governors, or trustees that such a grant be made to a particular institution and investigator. Some associations make no grants at all, preferring mainly to coordinate studies on water pollution by their member companies and to conduct some with their own staff. One such group is the National Canners Association. Some prefer to conduct as much research as possible with their own staffs and make grants only when it is too costly or otherwise impractical to obtain the necessary research capabilities already available at other institutions for their own laboratory facilities. The reason generally given is the lack of flexibility inherent in such grants depending, as they do, on availability of research fellows and on requirements of some university research grant agreements.

One example of an organization with this policy is the Wisconsin Sulfite Pulp Manufacturers Research League. None I know of wait for the investigator desirous of undertaking research to approach them on a proposed project but, rather, as mentioned earlier, attempt to define a cooperative research area and then seek out qualified investigators to undertake such studies.

The National Council for Stream Improvement is a trade association of the pulp, paper and paperboard industry organized in 1943 for the specific purpose of accelerating progress in the solution of the industry's effluent disposal and pollution abatement problems. Its program includes support and encouragement of fundamental and applied research on characterization of wastes, methods of waste reduction, treatment and utilization, and the effects of effluent discharge on biological life of receiving waters. Its activities are supported nationally by membership of companies producing more than 90 percent of the total pulp, paper, and paperboard production of the United States. Its budget is met by dues paid by member companies based on their production tonnage with an upper limit on the dues of the largest companies. Its policies are formulated by a Board of Governors and Operating Committee on the recommendation of regional technical and member committees and a paid staff including an executive secretary, technical advisor, and regional engineers. The 1957 budget authorized expenditure of $118,000 for water pollution research at 13 separate institutions, one of which was Oregon State College. Three grants were made to OSC, two for aquatic biology studies totalling $10,800 and a third for $10,400 to the Engineering Experiment Station project.

A number of considerations enter into the planning of such a research program. Because the Council serves the industry nationally, a determined effort is made to achieve a balanced program covering problems of interest

to different branches of the industry such as sulfite, kraft, semi-chemical, groundwood pulp and tissue to wastepaper board manufacture, as well as to locate projects to meet the regional needs of the industry and concentrate on local problems. In a given region, the selection of a specific institution or research project leader is dependent on several factors, such as the recommendation of the regional technical committee, specific experience of the personnel in question, availability of necessary research equipment and facilities, and the ability of the particular institution to attract the graduate students necessary for staffing of the research project.

As examples of how some of our projects have been selected, let me cite the following. The Council has made a grant to the Fish and Game Department of Oregon State College for a number of years (preceding 1950). During 1956 this project was budgeted at $5,400. Over the years this project had proven to be very productive of new data on the environmental requirements of fish as well as the effects of mill effluents on aquatic life. At the regional members meeting in 1956, Professor Dimick reported on some studies he had undertaken at Yaquina Bay concerning oysters. The members expressed considerable interest in this work and recommended that because of its timely nature and the past performance of the aquatic biology project at Oregon State, that an additional grant be made to expand the Yaquina Bay studies. This recommendation was approved by the Council's operating committee, and an additional $5,400 was appropriated in the 1957 budget to cover it. The renewal of this project was recommended at the 1957 regional meeting after review by the regional technical committee, and it will be included in the 1958 budget.

As a second example, a research project concerned primarily with the treatment of paper mill white waters was maintained at Rutgers University since 1946. Numerous phases of this problem were studied until it was felt that this project could turn its attention to some other project. At this time (1955) increasing interest nationally was being shown to the problem of sphaerotilus infestations. Council field personnel reviewed research capabilities of the project and suggested that a proposal be submitted covering a fundamental study of the physiology of the sphaerotilus organism. This proposal was reviewed by field personnel in areas where the slime problem had appeared and was recommended for acceptance by the operating committee for inclusion in the 1957 budget.

In summary, I should state that, like other trade associations, we rarely wait for an investigator to approach us for a grant. Rather, by constantly assessing the progress being made at the research projects nationally and by reviewing areas in which research is needed through the use of our regional technical committees and our field organization, the Council is able to select new research locations or research problems as required.

I might add that the review of research needs prepared by Mr. Eldridge has been sent to our national office so that the suggestions included in it which pertain to the pulp and paper industry in the Northwest can be reviewed against the program we already have underway to see whether our program can be improved.